

Alternative Fuel Trends & Success Stories

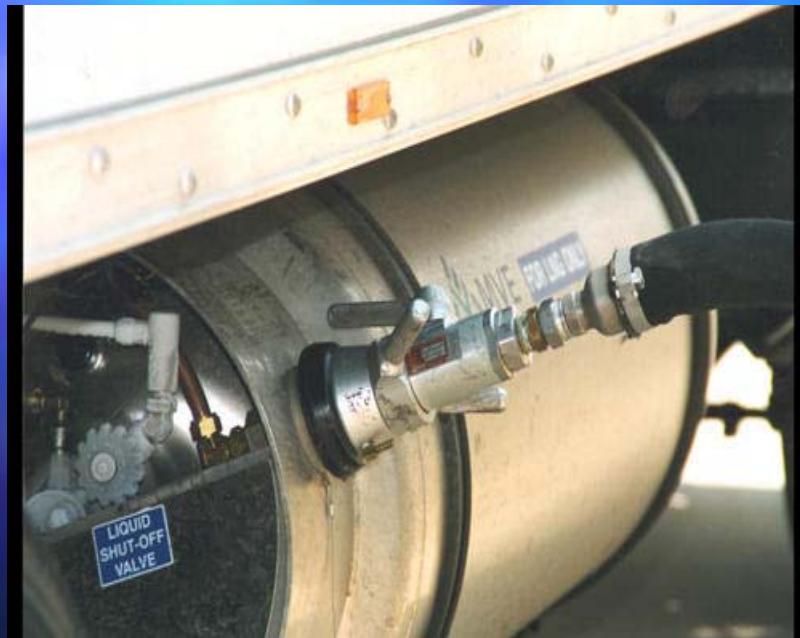
West Valley College's
Advanced Transportation
Technologies Center



Introduction

- What is an Alternative Fuel
- Trends
- Success Stories

What is an Alternative Fuel?



Liquefied Natural Gas Fueling

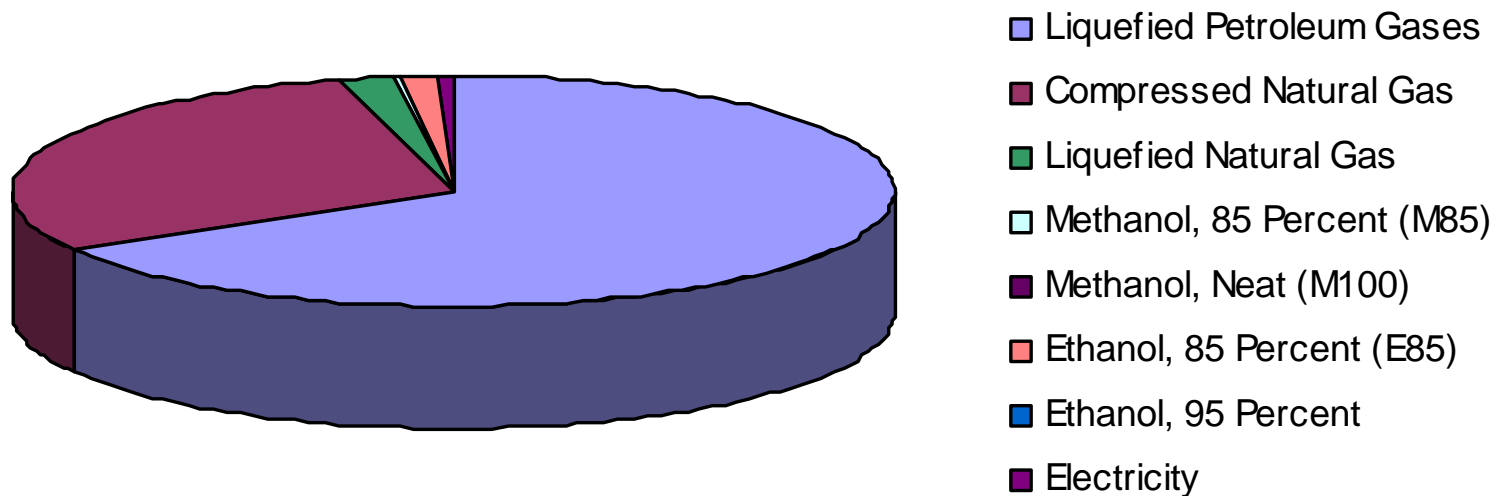
Alternative fuels are substantially non-petroleum, domestic sources, and cleaner burning.

- natural gas
- propane
- electricity
- ethanol
- methanol
- biodiesel
- hydrogen

*Alternative Fuels According to U.S. DOE

Alternative Fuels in Use

**2001 Alternative Fuel Use
GGE**



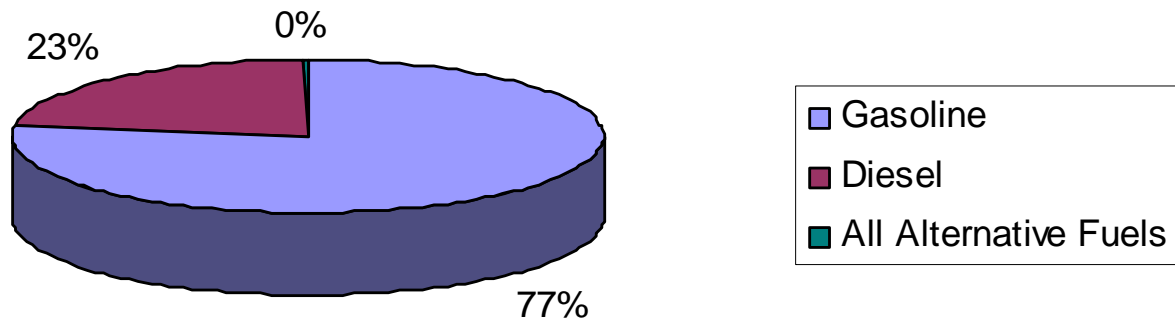
Alternative Fuel Trends

Fuel	1999	2000	2001	3-year % Increase
Liquefied Petroleum Gases	242,141	242,695	243,196	0%
Compressed Natural Gas	86,286	97,568	107,476	25%
Liquefied Natural Gas	5,828	6,847	7,566	30%
Methanol, 85 Percent (M85)	1,073	996	918	-14%
Methanol, Neat (M100)	447	437	406	-9%
Ethanol, 85 Percent (E85)	2,075	3,344	4,575	120%
Ethanol, 95 Percent	59	54	51	-14%
Electricity	1,431	1,819	2,143	50%

Numbers x1000 - GGE

Fuel Usage

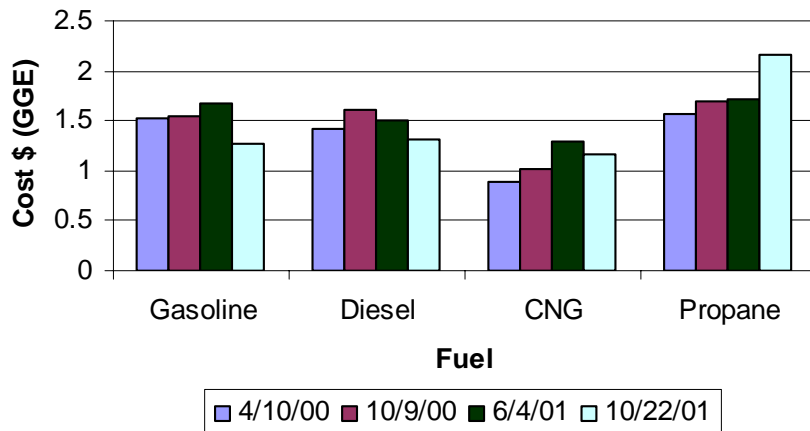
2001 Transportation Fuel Use



Fuel	1999	2000	2001
Gasoline	125,111,000	124,651,000	126,284,000
Diesel	35,796,800	36,779,340	37,581,010
All Alternative Fuels	339,340	353,760	366,331

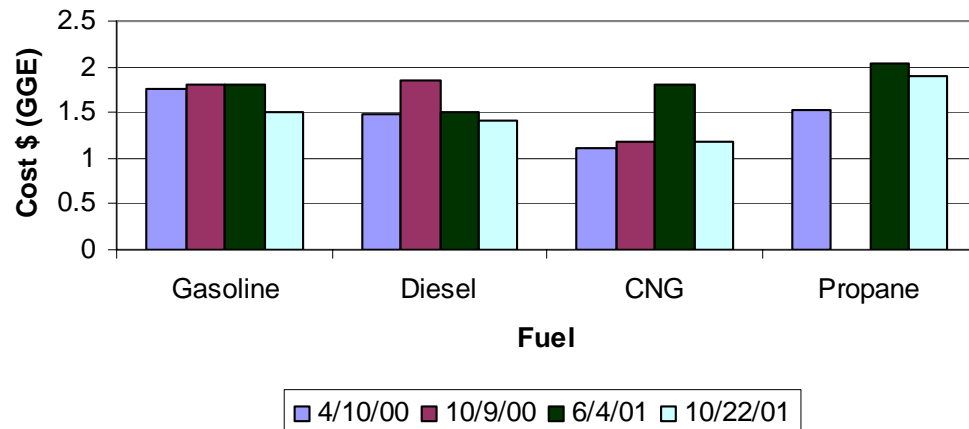
Fuel Price Trends

Nationwide Retail Fuel Prices



Fuel Prices are in gasoline gallon equivalent except diesel

West Coast Retail Fuel Prices



Who is Using Alternative Fuels?



Who is Using Alternative Fuels?



UPS Truck

- U.S. Post Office
- Super Shuttle
- Airports - land side & ground
- Budget Rental
- Taxis
- Federal, State, Local Governments
- Transit Operators
- School Bus
- Police
- Trucking Companies
- Waste Haulers
- Colleges & Universities
- Utilities

Success Stories

- Every Local City & County
- State Government - required by Epact
- Federal Government - required by Epact
- Utilities - required by Epact
- University of California, Cal State, & Community Colleges
- School Bus Fleets

Success Stories - Transit

- Monterey Salinas Transit
 - 17 CNG Buses (23%)
- Sacramento Transit
 - 148 CNG Buses (66%)
- Sonoma
 - 23 CNG Buses (41%)
 - 50% of new purchase - CNG
- Santa Cruz - soon



Approximately 90 Transit Companies in the US
use alternative fuels

Success Stories - Delivery



■ U.S. Post Office

- CNG, LNG, electric, E85
- 600+ non-mail CNG and E85
- 10,000 E85 mail delivery vehicles
- 500 electric mail delivery vehicles

■ UPS -

- operated more than 967 natural gas vehicles in 18 cities

Success Stories - Trucking

■ Harris Ranch

- Savings of \$0.02 to \$0.03 per mile = \$140,000/year
- Eliminate 21,024 pounds of pollution annually.

■ Odwalla

- 129 CNG Trucks (70%)
- 70,000+ GGE per year
- invested more than \$1 million



Harris Ranch LNG Fueling Station

Success Stories - Trucking



■ Raley's

- replaces 100,000 gallons of diesel each year
- California's first LNG fueling station
- LNG operation costs higher

Success Stories - Airports



- 3 Bay Area Airports
 - Fleet vehicles
 - Shuttles
 - require concessionaires
- SuperShuttle
 - 30 CNG vans at SFO
- EV Rentals (Budget)
 - Rent and sale afvs
 - SJ, SF, Oak Airports

Success Stories - Waste Haulers

■ Waste Management

- 120 vehicles replaced
- =9,255 vehicles replaced
- 1244 ton reduced / year

■ Specialty Waste



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